SIMRAD

Master the Elements

Manual

Simrad IS70/IS80
RPM Indicators RPM70 and RPM80
Speed Indicators SP70 and SP80

English

A brand by Navico - Leader in Marine Electronics

Manual

Simrad IS70/IS80
RPM indicators RPM70 and RPM80
Speed indicators SP70 and SP80

English

The original language for this document is English. In the event of any discrepancy between translated versions and the English version of this document, the English document will be the official version.

To the best of our knowledge, the content in this publication was correct at the time of printing.

As we are continuously improving our products we retain the right to make changes to the product and the documentation at any time. Updated manuals are available from our website www.simrad-yachting.com, and are free to download.
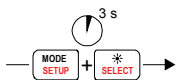
About this manual

This manual is a reference guide for installing and operating the Simrad RPM70/RPM80 indicators and SP70/SP80 speed indicators.

The manual does not include installation procedures for sensors that can be connected to the system.

In this manual, names of modes and keys are written in boldface (e.g. **User setup**, **Mode/Setup** key).

In the illustrations throughout the manual the following symbols are used:

⏱ 3 s	Time indication (1, 3, 5 or 10 seconds)
⏱ 3 s [SELECT]	Single key press with time indication
⏱ 3 s [MODE SETUP] + [SELECT] →	Combined key press with time indication
— [SELECT] →	Repeated key presses on single key

Important text that requires special attention from the reader is emphasized as follows:

☞ *Used to draw the reader's attention to a comment or some important information.*

⚠ ***When necessary, used to warn personnel they should proceed carefully to prevent risk of injury and/or damage to equipment.***

Contents

1 Introduction

General information

The RPM70 and RPM80 instruments present you with the engine r/min.

The SP70 and SP80 instruments present you with the vessel speed in knots.

Adjustable backlight for night operation is provided as well as adjustable intensity for operation in sunshine.

Instrument layout

The RPM70 and RPM80 displays include a pointer and a circular scale with rpm indication.
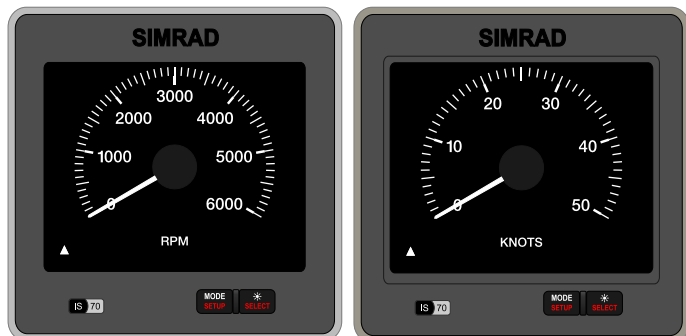
The following scales are available:

- 0 - 3000 rpm
- 0 - 6000 rpm

The SP70 and SP80 displays include a pointer and a circular scale with speed indication.

The following scales are available:

- 0 - 25 knots
- 0 - 50 knots

The instrument is operated by 2 keys. These are used to switch between display modes, to set parameter values and to adjust background illumination.

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2 Installation

Location of the unit

The RPM70/RPM80 and SP70/SP80 instruments should be mounted with special regard to the unit's environmental protection, temperature range and cable length. Refer to the Specifications chapter.

Avoid mounting the unit where it is easily exposed to sunlight, as this may unintendedly overheat the unit.

For RPM70 and SP70 a weather cover is included and the cover should be put on when the unit is not in use.
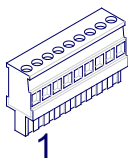
Panel mounting

☞ *The mounting surface must be flat and even to within 0.5 mm.*

1 Drill 4 mounting holes and make a panel cut-out according to the drilling template included in the package

2 Use the supplied self tapping screws to secure the unit to the panel

3 Apply the front corners

⚠ ***Do not over-tighten the screws!***

Cable connection and interface

Signal input, network and power supply are wired to the enclosed terminal block that is to be plugged in on the rear side.

The instrument is delivered with a 0.3 m SimNet cable with a standard SimNet plug in both ends. One plug must be cut off and the wires connected to terminals 3 through 6 according to the color codes shown below.

TERMINAL NO	SIGNAL	TYPE	COLOR
1	GND	– Supply	-
2	VCC	+ Supply 12 - 24V DC	-
3	SimNet - H	"High" signal line	Yellow
4	SimNet - C	Power source common	Black
5	SimNet - L	"Low" signal line	Blue
6	SimNet - S	Power source positive	Red
7	NC	Not connected	-
8	NC	Not connected	-
9	NC	Not connected	-

⚠ *Any voltages other than those specified in the product specification, page 19, may cause damage to the instrument.*

Securing the cables

Use the enclosed tie wrap to secure the cables to the instrument.
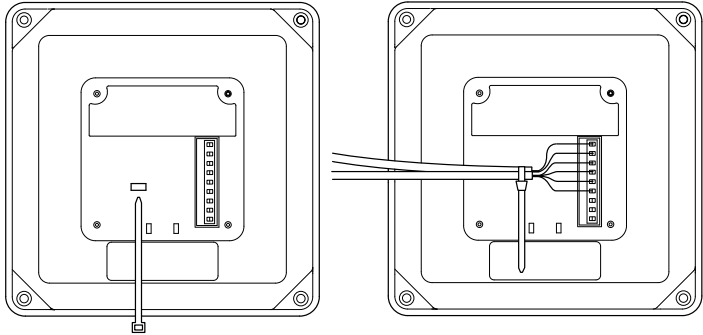
Interconnecting instruments

Interconnect a series of instruments by using a SimNet power cable with termination and T-joiners as illustrated below.

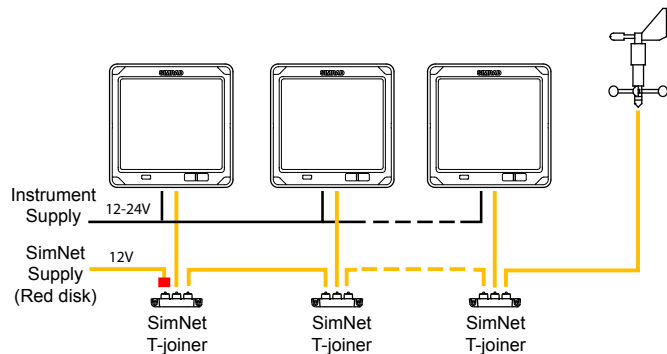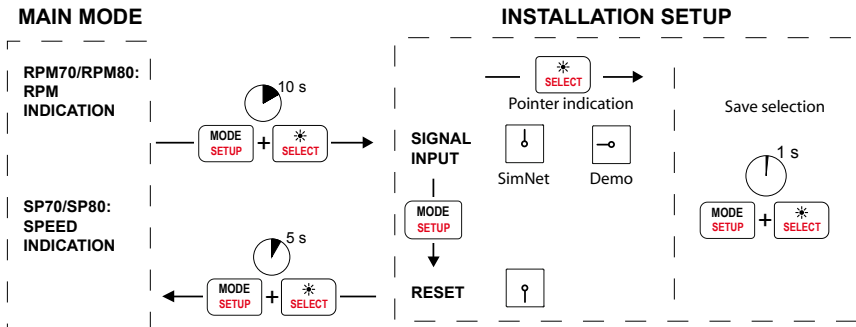☞ *If the instruments are connected to other SimNet compatible products, refer to the manual for those products.*

⚠ ***Use only 12V as SimNet supply!***

Installation setup

After installation, the system must be configured to read the preferred input signal before the instrument is ready for use.

The **Installation Setup** is accessed as shown in the illustration.

Refer also to the Operation flow chart in the *Operation* section.

Input signal type

SimNet and Demo mode are selectable inputs on the RPM70/RPM80 and SP70/SP80.

In Demo mode the instrument simulates data to be distributed on the SimNet.

Use the right button to select signal type. The pointer position will change accordingly as shown in the table.

Press both keys simultaneously to save the input signal type.

Local SimNet reset

When SimNet is selected as Signal Input you can reset the SimNet input sources by pressing both keys simultaneously.

Press both keys for 5 seconds to return to Main mode.

3 Operation

Turning indicators on

The indicators have no power key, and will be running as long as power is applied.

When power is applied to the system the instrument will operate in the main mode.

After approximately 3 seconds the instrument is operative.

Before the instrument is ready to operate the default settings should be checked and changed if other values are preferred. Refer to the *Changing the default settings* chapter.

Using the keys

The instrument is operated by the 2 keys on the front. They are used to switch between display modes, to set values and to adjust the illumination as illustrated in the table below.

Key presses or key combinations not indicated in the table have no effect.

Refer also to Operation flow chart.

KEY	KEY PRESS	MODE/ACTION	
		DISPLAY MODE	SETUP MODES
MODE SETUP	3 sec.	Switch to **User Setup**	Switch to main display
SELECT	Short	Increase light level	Select parameter Adjust parameter
MODE SETUP + **SELECT**	Short		Save setting and return to Setup parameter
	10 sec.	Enter **Installation Setup**	
	5 sec		Return to main display

☞ *Time out from User Setup is 10 sec. Time out from Installation Setup is 5 min.*

Backlighting

The backlighting is adjusted by pressing the **Light** key when the instrument is in normal operation.

The light setting affects the keys and the backlight as shown in the table:

LIGHT LEVEL	KEYS	BACKLIGHT
0	Low	Off
1-7	Steps	Steps
8	Medium	Off
9	High	Off

☞ *Level 8 and 9 are for bright daylight.*

The instrument will return to normal operation 1 second after the last key press.

Range: 0 - 9   Default value: 2

☞ *If several instruments are connected via SimNet, the instruments can be grouped in different light banks. Changing the backlight settings on one of the instruments will affect all instruments in the group. Refer to Light bank selection in Changing the default settings chapter.*

Error Alarm

⚠ ***In the event the error indicator is lit, the instrument is not operable and service/repair is required.***

Error indicator ————
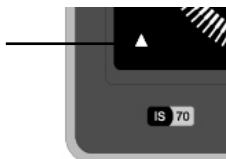
Maintenance

The IS70/IS80 instruments are "repair by replacement" units, and the operator is therefore required to perform only a very limited amount of preventive maintenance.

If the unit requires any form of cleaning, use fresh water and a mild soap solution (not a detergent). It is important to avoid using chemical cleaners and hydrocarbons such as diesel, petrol etc.

If a weather cover is available this should be put on when the unit is not in use.

Operation flow chart

USER SETUP

Light Bank Selection
- Simrad
- Gr 1
- Gr 2
- Gr 3
- Gr 4
- Gr 5
- Gr 6
- None

3 s

MODE / SETUP

10 s

MAIN MODE

RPM70/RPM80:

RPM Indication

SP70/SP80:

Speed indication

10 s

MODE / SETUP + ☀ SELECT

5 s

MODE / SETUP + ☀ SELECT

5 min

INSTALLATION SETUP

Signal input
- SimNet
- Demo

Reset
- Local SimNet reset
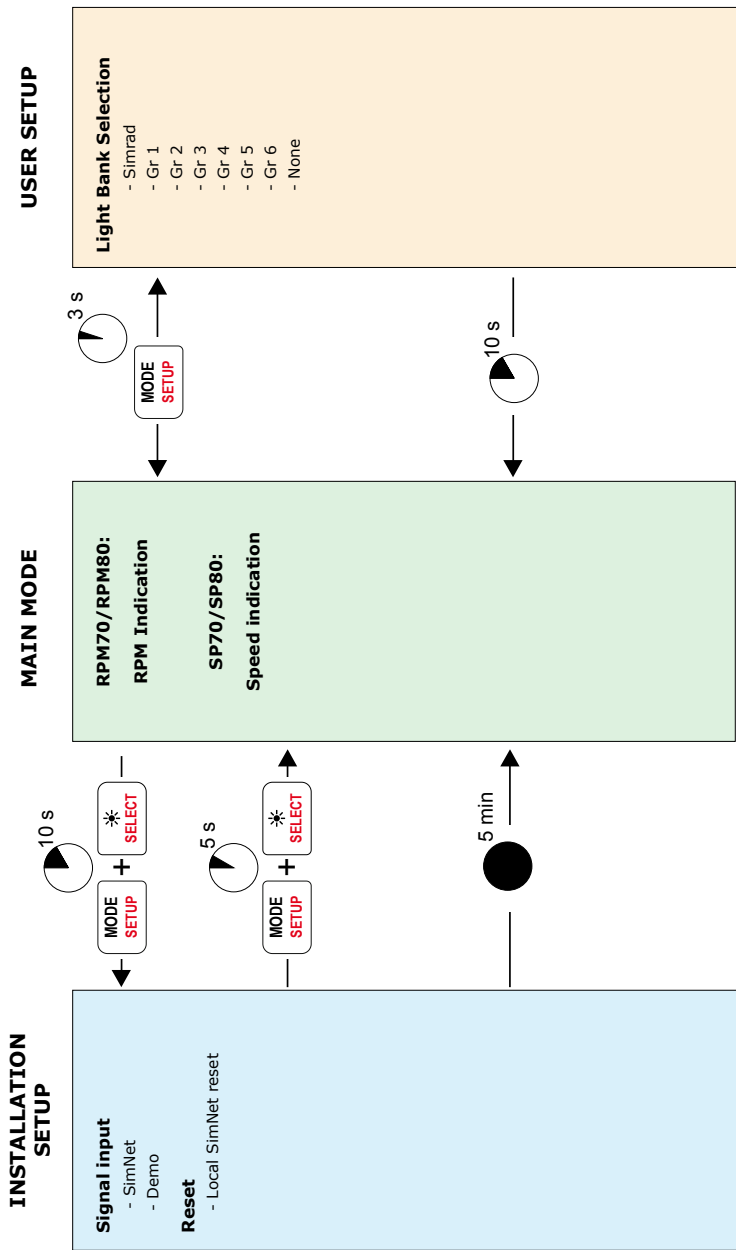
4 Changing the default settings

General

The factory default settings may all be changed in the **User setup**, accessed as shown in the illustration.

Refer also to the Operation flow chart in the *Basic Operation* chapter.

Light bank selection

The light bank function is used to globally control light settings for a group of units that are connected via the SimNet network.

By assigning several units to the same group, the light adjustment on one unit will be effective on the rest of the members in the same group.
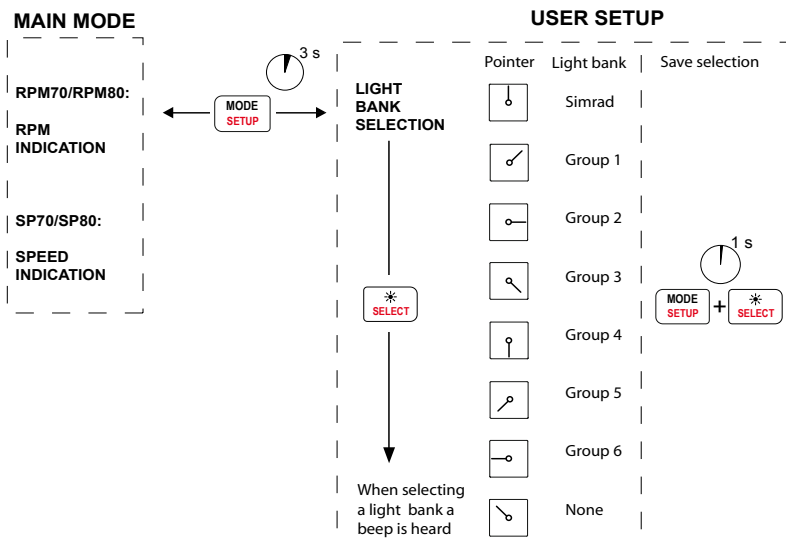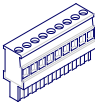

Default value: Simrad

☞ *If you prefer one instrument to stay outside any group for independent light adjustment, you select "none".*

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5 Spare parts

Spares and auxiliaries

Part no.		Description
27107655		RPM80 instrument head, 0-3000 RPM
27107663		RPM80 instrument head, 0-6000 RPM
27107671		RPM70 instrument head, 0-3000 RPM
27107689		RPM70 instrument head, 0-6000 RPM
27107697		SP80 instrument head, 0-25 kts
27107705		SP80 instrument head, 0-50 kts
27107713		SP70 instrument head, 0-25 kts
27107721		SP70 instrument head, 0-50 kts
		Mounting kit including:
		- 4 screws
		- 6 corners
		- 1 terminal block
22096515		IS70 Weather cover
22098495		NMEA0183 Interface cable 2.5 m (8')

SimNet cables and accessories

Part. no.	Description
24005829	0.3 m (1') SimNet cable (SDC:0.3M)
24005837	2 m (6.6') SimNet cable (SDC:02M)
24005845	5 m (16.6') SimNet cable (SDC:05M)
24005852	10 m (33') SimNet cable (SDC:10M)
24005860	SimNet T-joiner (SDJ) (3p)
24006298	SimNet Multijoiner (7p)
24006306	SimNet Bulkhead T-connector
24005878	SimNet cable gland

Part. no.	Description
24005886	SimNet protection plug
24005894	SimNet termination plug
24005902	2 m (6.6') SimNet power w/termination
24005910	2 m (6.6') SimNet power w/o termination
24005936	AT10 Universal NMEA0183 converter
24005944	AT15 Active T-connector, IS15
24005928	SimNet cable protection cap
24005729	SimNet to Micro–C male, 0,5 m cable that connects a SimNet product to a NMEA2000 network
24006199	SimNet to Micro-C female, 1 m cable that connects a NMEA2000 product to SimNet
24006363	SimNet cable, 5.5 m (18'), with 1 plug

6 Specifications

Technical specifications

Power supply...................................12/24V DC (+30%, -10%)

Power consumption..< 5W

SimNet network load.. 1 NL

Input signals:
    NMEA2000/SimNet...................................... 1 can channel
    Input mode selection: NMEA2000/SimNet,
                                                            Demo mode

Weight: .... 0.55 kg (1.21 lb)

Material:..ASA/PC Luran S

Color:..Black

Display:
    Dial RPM70/RPM80:...........0 - 3000 r/min. or 0 -6000 r/min.
    Dial SP70/SP80: .... 0 - 25 kts or 0 - 50 kts.
    Illumination:.................................. Adjustable in 10 steps

Environmental protection:
    Front.. IP66
    Back: IP20
    Optional Back cover IP66

Safe distance to compass:
    Steering compass .... 0.40 m (1.32 ft.)
    Stand-by/Emergency distance................... 0.20 m (0.66 ft.)

Temperature:
    Operating: .... -15 to +70°C (+5 to +158°F)
    Storage: ....-40 to +80°C (-40 to +176°F)

Climate
    Max 95% RH: .... Max 30 days per year
    Max 85% RH: .... Remaining days
    Max 75% RH: .... Average per year

Dimensional drawing

172 mm [6.78"]

172 mm [6.78"]

21 mm [0.83"]

47 mm [1.86"]

10 mm [0.37"]

152 mm [5.98"]

136 mm [5.35"]

136 mm [5.35"]

153 mm [6.02"]
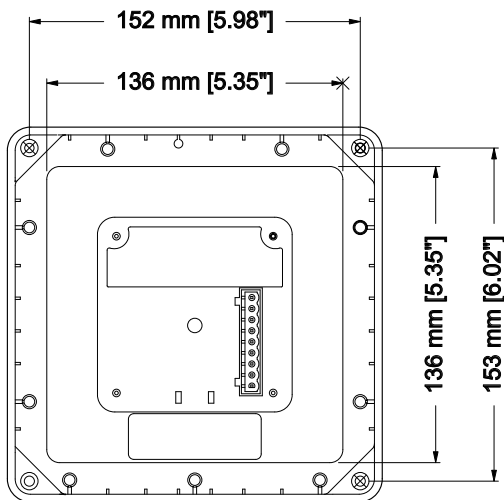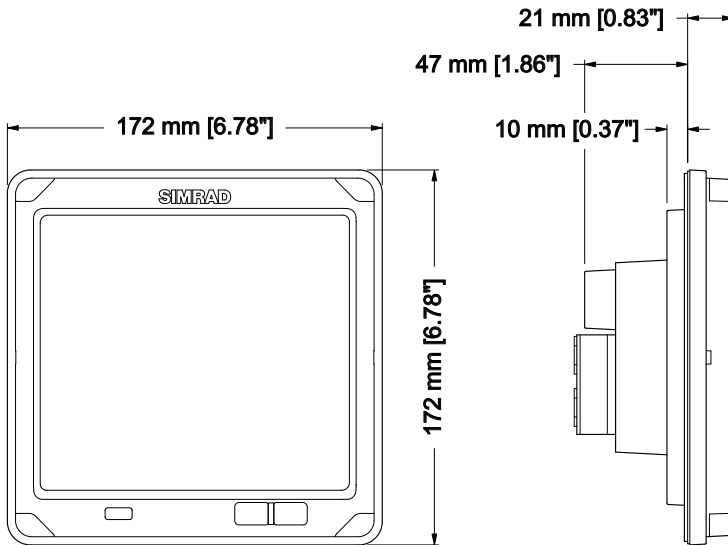
RPM80 and SP80 indicators

115 mm [4.5"]

115 mm [4.5"]

97 mm [3.8"]

90 mm [3.5"]

90 mm [3.5"]

97 mm [3.8"]

21 mm [0.8"]

47 mm [1.9"]

80 mm [3.1"]

75 mm [3.0"]
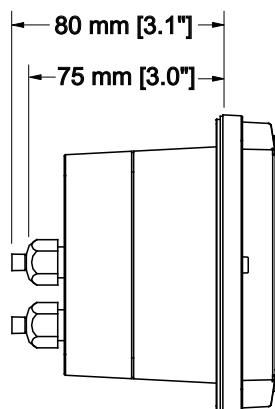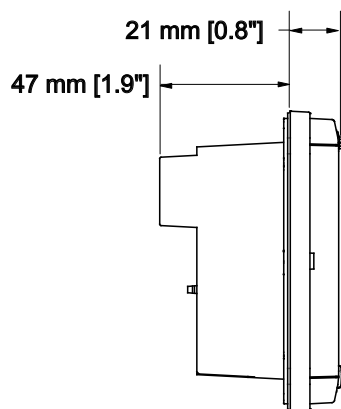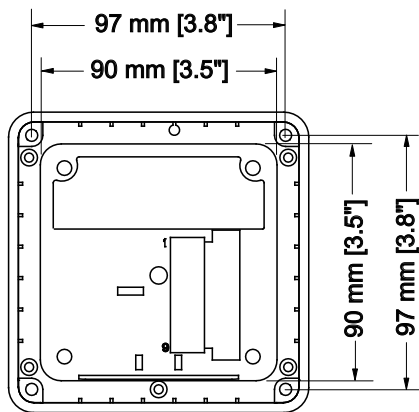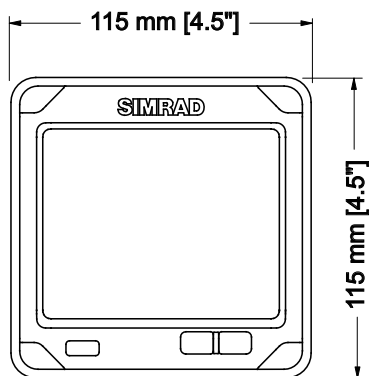
With Optional IP66 Back Cover

RPM70 and SP70 indicators

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RPM70/RPM80/SP70/SP80_OM_EN Doc.no. 20243861A

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